Psycho Idea
http://jurnalnasional.ump.ac.id/index.php/PSYCHOIDEA
ISSN 1693 – 1076 (Print) ISSN 1693 – 1076 (Online)

Volume 22 Nomer 02 Tahun 2024

Parental Bonding And Maternal-Fetal Attachment Among Indonesian Pregnant Women

Parental Bonding dan Maternal-Fetal Attachment Pada Ibu Hamil di Indonesia

Oleh :
Rafi Damri[1]
Deswita Ning Tiyas Pangestika[2]
Nafadiillah Sekar Ibpraningrum[3]
Irwan Nuryana Kurniawan[4]

Submitted:
08 – 07 - 2024

Revised:
02 – 09 - 2024

Accepted:
04 – 10 -2024

ABSTRACT

Pregnant women generally have a certain emotional bond with the fetus they are carrying. Sometimes, this emotional connection and attachment can be a projection of the pregnant woman's relationship with her own parents. Therefore, this study aims to examine the relationship and influence between the dimensions of parental bonding (PB) and maternal-fetal attachment (MFA) among pregnant women in Indonesia. This research employs a correlational design involving 120 pregnant women in their second and third trimesters in Indonesia. Data collection was conducted using the Maternal-Fetal Attachment Scale (α 0.878) and the Parental Bonding Instrument (α > .70). The study found that parental care (PC) and parental autonomy encouragement (PAE) positively correlate with MFA. Specifically, PC can predict MFA. In other words, the higher the positive care received by the mother during her childhood and adulthood, the more it influences the care and attachment of the mother towards the fetus. Future research is expected to test the model of these variables with a larger and more diverse sample, and with a more complex model.

Keywords: *Maternal Fetal Attachment; Parental Bonding; Parenting; Pregnancy; Prenatal.*

ABSTRAK

Ibu hamil umumnya memiliki hubungan emosional tertentu dengan janin yang dikandungnya. Terkadang, hubungan emosional dan kelekatan tersebut dapat menjadi proyeksi dari hubungan ibu hamil dengan orang tuanya. Oleh karena itu, penelitian ini ingin membuktikan hubungan dan pengaruh antara dimensi-dimensi *parental bonding* (PB) dan *maternal-fetal attachment* (MFA) pada ibu hamil di Indonesia. Penelitian ini menggunakan desain penelitian korelasional yang melibatkan 120 ibu hamil di Indonesia pada trimester kedua dan ketiga. Pengambilan data pada peneltian ini menggunakan skala *Maternal-Fetal Attachment Scale* (α 0.878) dan skala *parental bonding instrument* (α > .70). Penelitian ini menemukan bahwa *parental care* (PC) dan *parental*

[1] Rafi Damri, Universitas Islam Indonesia, 20320289@alumni.uii.ac.id (*corresponding author*)
[2] Deswita Ning Tiyas Pangestika, Universitas Islam Indonesia, 20320236@alumni.uii.ac.id
[3] Nafadiillah Sekar Ibpraningrum, Universitas Islam Indonesia, 20320219@alumni.uii.ac.id
[4] Irwan Nuryana Kurniawan, Universitas Islam Indonesia, 983200105@uii.ac.id

autonomy encouragemnet (PAE) berkorelasi positif dengan MFA. PC secara khusus mampu memprediksi MFA. Dengan kata lain, semakin tinggi pengasuhan positif yang diterima ibu saat kecil hingga dewasa akan mempengaruhi pengasuhan dan kelekatan ibu terhadap anak yang dikandungnya. Penelitian selanjutnya diharapkan dapat menguji model dari variabel-variabel tersebut dengan sampel yang lebih luas dan lebih bervariasi serta dengan model yang lebih kompleks.
Kata kunci: *Ikatan Orang Tua; Kehamilan; Keterikatan Ibu dan Janin; Pengasuhan Anak; Prenatal*

INTRODUCTION

For many mothers, pregnancy is perceived as a highly anticipated event. Despite the numerous challenges and sacrifices required during pregnancy, these are often considered worthwhile due to a mother's love for her unborn child. This maternal love is manifested through a desire to protect, positive emotions during pregnancy, and engaging in healthy activities to ensure the baby's well-being. Such behaviors are indicative of a solid maternal-fetal attachment (MFA).

According to Cranley (1981), MFA is the extent to which a mother exhibits behaviors of bonding and contact with her unborn child. This concept is similar to prenatal attachment (PA), as defined by Muller & Mercer (1993), which refers to the unique bond that develops between a mother and her unborn child. Mothers with strong MFA are generally keen to monitor fetal development, interact with the fetus, imagine its growth, protect it, and maintain positive feelings toward their pregnancy (Suryaningsih et al., 2020). The present study refers the definition developed by Cranley (1981) mentioned above. Thus, MFA encompasses specific behaviors where mothers treat their unborn children with positive actions and attitudes.

Several studies have highlighted the positive benefits of strong MFA, particularly in enhancing maternal mental health (Abasi et al., 2013; Walsh et al., 2013). Dubber et al. (2015) noted that MFA could reduce the potential for postpartum bonding disorders and postpartum depression symptoms. Matthies et al. (2020) added that MFA helps in lowering postpartum anxiety. MFA also contributes to maternal well-being and postpartum bonding (McNamara et al., 2019; Monteleone et al., 2020). Previous studies highlight the importance of the MFA in supporting the mother's mental health and the continuity of the mother-child relationship after birth.

Various studies have identified factors influencing MFA, including age (Hopkins et al., 2018; Rubertsson et al., 2015), type of pregnancy or parity (Rubertsson et al., 2015), socioeconomic status (Camarneiro & de Miranda Justo, 2017), and planned pregnancy (Camarneiro & de Miranda Justo, 2017; Wahyuntari et al., 2019) Additionally, parental bonding (PB) is considered an influential factor in MFA (da Rosa et al., 2021). The research by Gioia et al. (2023) supports this finding, stating that perceived parental bonds have a significant relationship with the mother-infant bond during pregnancy. The current study selected the PB variable as a predictor of MFA based on prior research that consistently demonstrated a relationship between PB and MFA.

Bonding refers to the interpersonal relationships formed, while PB refers to the relationship between parents and their children. Researchers have highlighted the importance and benefits of PB. Parker et al. (1979) defined PB as a form of bonding that involves parental care and protection. Shin et al. (2016) suggested that solid parental-child relationships reduce the risk of peer victimization. Additionally, PB helps children's

emotional development (Cooke et al., 2019). Therefore, PB represents the attachment between parents and their children that positively impacts their emotional and behavioral development.

PB is the relationship or interaction between a child and their parents. Good PB has been associated with protective behaviors against child depression (Luanpreda & Verma, 2016), reduced suicidal tendencies in pregnant teenagers (Coelho et al., 2014), decreased likelihood of borderline personality disorder (Infurna et al., 2015), and fewer eating disorders (Monteleone et al., 2020). Consequently, parents need to apply PB to their children.

Parker et al. (1979) identified two aspects of PB: parental care and control/protection. Parental care refers to the attention parents give their children, characterized by warmth, indulgence, and empathy, as opposed to coldness, indifference, and neglect. Parental control or protection involves behaviors aimed at safeguarding the child, including being overprotective or invasive, hindering the child's autonomy and independence. To accurately view parental bonds, Parker et al. (1979) categorized PB into four types based on the intercorrelation of the two existing aspects. The four types of PB are optimal parenting (high care, low control), affectionate constraint (high care, high control), affectionate control (low care, high control), and neglectful parenting (low care, low control). Optimal parenting is considered the best for children as it provides adequate care without restricting their freedom.

de Cock et al. (2016) identified several factors influencing PB. First, parental characteristics, including personality, mental state, and attachment. Second, child characteristics, relating to prenatal and early postnatal connections, influenced by factors like gestational age at birth, parity, and infant temperament. Third, contextual sources, including feelings, behaviors, and partner support. Poor PB can lead to behavioral issues, depression, anxiety, parenting stress, executive dysfunction in children, suicidal thoughts, and severe mental health problems (de Cock et al., 2017; Goschin et al., 2013; Savage, 2014; Winston & Chicot, 2016; Yap et al., 2014).

Mothers who experienced poor caregiving during childhood may have their parenting styles influenced, including their perceptions of their unborn children.de Cock et al. (2016) noted that a mother's upbringing could lead to poor parenting styles with low attachment to their children. Therefore, the potential for strong MFA increases when a mother has a good PB with her parents, and conversely, MFA may decrease if the mother's PB is weak.

A number of studies related to MFA have been conducted in various countries, such as Brazil (da Rosa et al., 2021) and Iran (Moniri et al., 2023). Unfortunately, research related to MFA in Indonesia is still limited. Therefore, to provide a deeper contribution, research that empirically tests this MFA still needs to be expanded to the Indonesian population. The current study examines the relationship between the dimensions of Parental Bonding (PB) and Maternal-Fetal Attachment (MFA) and to identify predictive models of PB dimensions on MFA. The hypothesis proposed is that PB dimensions can positively predict MFA.

RESEARCH METHOD

Research Design

This study employs a quantitative approach with a correlational design. The quantitative approach focuses on producing numerical data or percentages, making it a

value-based approach. It is systematic and statistical and aims to test predefined hypotheses (Sugiyono, 2022). This research examines the relationship and influence among the variables, analyzing it using correlation and regression tests. The dependent variable in this study is maternal-fetal attachment (MFA), and the independent variable is parental bonding (PB) dimensions.

Research Participants

The participants for this study were chosen by taking any individual who happened to meet the requirements for the research sample. This technique is often referred to as incidental sampling or accidental sampling, suggesting that sampling is accidental or done by chance (Fauzy, 2019). The criteria for participants were pregnant women living in Indonesia in their second or third trimester.

Recruitment involved distributing questionnaires both directly and indirectly. Direct recruitment involved approaching participants and requesting their consent to complete the questionnaires. Indirect recruitment was conducted by distributing electronic questionnaires via social media platforms such as Facebook, Instagram, X (formerly Twitter), Telegram, and WhatsApp. A total of 120 participants meeting the criteria were successfully recruited. Referring to Fraenkel et al. (2012), who state that the minimum sample size for correlational studies is 50, the sample size of 120 in this study is well within the recommended minimum range.

Research Instruments

Maternal-Fetal Attachment Scale

Maternal-fetal attachment was measured using the Maternal-Fetal Attachment Scale (MFAS) (Cranley, 1981), which was created in a shorter form by Lima et al. (2022), with Cronbach's Alpha reliability of 0.878. In this study, a scale that has been independently adapted into Indonesian and assisted by expert judgment from lecturers will be used. This scale consists of 15 items and three aspects: experiencing expectations (EE), imagining and caring for the fetus (ICF), and interacting with the fetus (IWF). Examples of items include: “Saya sangat menantikan waktu untuk melihat seperti apa bayi saya nantinya (I am really looking forward to seeing what my baby will be like)” and “Saya bisa membayangkan diri saya menyusui bayi saya (I can see myself feeding the baby)”. Participants' responses were recorded on a Likert scale from 1 = never to 5 = always. Higher scores indicate stronger maternal-fetal attachment. For the participants in this study, the scale demonstrated good internal consistency ($\alpha = .749 > 0.70$).

Parental Bonding Scale

Parental bonding was measured using the Parental Bonding Instrument (PBI) developed by Parker et al. (1979). In this study, a scale that has been independently adapted into Indonesian and assisted by expert judgment from lecturers will be used This scale comprises 25 items with four dimensions: parental care dimension (PC), parental indifference/rejection dimension (PIR), parental overprotective dimension (PO), and parental encouragement of autonomy dimension (PEA). Examples of items include: “Orang tua saya tampak memahami masalah dan kekhawatiran saya (Appeared to understand my problems and worries)” and “Orang tua saya sering tersenyum pada saya (Frequently smiled at me)”. Participants responded on a Likert scale from 1 = never to 5 = always. Higher scores indicate stronger parental bonding. For this study's participants

showed good internal consistency (α > .70): parental care memiliki α = .796, parental autonomy encouragement memiliki α = .735, parental indifferent/rejection memiliki α = .884, dan parental overprotection memiliki α = .830.

Data Analysis Method

The data analysis involved descriptive tests, assumption tests, and hypothesis tests. The assumption tests included tests for normality and multicollinearity. If the assumption tests met the parametric requirements, Pearson's correlation test was used for hypothesis testing. Spearman's correlation test was applied if the parametric requirements were not met (Rajaretnam, 2016). Additionally, stepwise regression analysis with bootstrapping was conducted. Bootstrapping was chosen to handle deviations from asymptotic normality and other parametric violations (Cheung et al., 2023), ensuring that the results represent the population. A total of 5000 resamples were used for bootstrapping. All analyses were performed using JASP 0.18.3 software.

RESULT AND DISCUSSION

This study involved 120 pregnant women who met the inclusion criteria. The most of the participants in this study were in their second trimester (62.5%), were employed (74.2%), and had an income in the range of IDR 2 to 4 million.

Table 1. Socio-demography of participants

Demography	**N**	**%**
Trimester		
2nd Trimester	75	62.5
3th Trimester	31	25.8
Missing	14	11.7
Occupation		
Housewife (Non-employee)	30	25
Employee	89	74.2
Student	1	.8
Income		
Less than 2 Million IDR	9	7.5
2-4 Million IDR	56	46.7
4-6 Million IDR	40	33.3
More than 6 Million IDR	15	12.5
Total	**120**	**100**

After identifying the participants' demographics, this study identified the participants' levels of PB and MFA. The results showed that most participants had high PB and MFA dimensions levels. Further information can be found in the table 2.

Table 2. Data Descriptive and CPB and MFA Level Categorization

Variables	Mean	SD	Low		High	
			N	%	N	%
Parental Care	24.90	3.63	57	47.5	63	52.5
Parental Encouragement Autonomy	22.53	4.11	58	48.3	62	51.7
Parental Rejection	15.15	6.12	50	41.6	70	58.3
Parental Overprotective	20.69	6.44	54	45.0	66	55.0
Experiencing expectations	44.51	3.48	48	40.0	72	60.0
Imagining and caring for the fetus	22.00	1.94	36	30.0	84	70.0
Interacting with fetus	21.52	2.15	43	35.8	77	64.2
Overall MFA	65.87	7.65	51	42.5	69	57.5

The current study continued the analysis with an assumption test in the form of a normality test. The normality test results show that the variables are not normally distributed (sig < .001). Meanwhile, no multicollinearity problem was found (VIF = 1.000; tolerance = 1.000). Therefore, the parametric requirement was rejected, so the hypothesis test used was the Spearman test (Rajaretnam, 2016), and bootstrapping for multiple regression was performed.

Table 3. Correlation among variables

Variables	PC	PAE	PIR	PO
EE	.156	-.016	-.223*	-.186*
ICF	.425***	.277**	-.070	.008
IWF	.245**	.264**	.055	.101
MFA	.428***	.361***	-.061	.012

Note. PC: Parental care; PAE: Parental autonomy encouragemnet; PIR: Parental indifference/rejection dimension; PO: Parental overprotective; EE: Experiencing expectations; ICF: Imagining and caring for the fetus; IWF: Interacting with fetus; MFA: Total maternal fetal attachment.
*p < .05, **p < .01, ***p < .001

Based on Table 3, the PB dimensions that correlate with MFA are PC (r = .428) and PAE (r = .361). Meanwhile, when looking at the MFA dimensions, the PB dimension, PC, correlates with ICF (r = .425) and IWF (r = .245). PAE correlates with ICF (r = .277) and IWF (r = .264). PIR correlated with EE with a value of r = -.223. In addition, OD correlated with EE with a r = -.186 value.

Table 4. Summary of stepwise regressions

Variable	B	Bias	SE	β	95% CI*		R^2	Adj. R^2
					Lower	Upper		
PC	.463	.917	.157	.331	.181	.781	.109	.102

Note. Coefficient estimate is based on the median of the bootstrap distribution (5000 replicates).
*Bias corrected accelerated

Based on Table 4, PC can positively predict MFA (B = 463; β = .331). Meanwhile, other PB dimensions cannot significantly predict MFA. All independent variables used in this study can predict MFA simultaneously by 10.2%, while the rest is the influence of factors outside this study.

The current study aimed to examine the relationship between the dimensions of Parental Bonding (PB) and Maternal-Fetal Attachment (MFA) and to identify predictive models of PB dimensions on MFA. The study's participants were primarily pregnant women in their second trimester, employed individuals, and those with an income ranging from 2 to 4 million Rupiah. Additionally, the study found that the levels of PB (across its dimensions), including MFA and each dimension of MFA, were categorized as high. Pregnant women entering their second trimester likely begin to experience significant changes, including enhanced maternal and emotional aspects (Tokman & Yilmaz, 2024), alongside the demands of their employment. In other words, these findings indicate that the attachment of pregnant women to their parents tends to be strong, as well as their attachment to the fetus they are carrying.

Correlation and multiple regression tests were employed to substantiate these variables. The regression results indicated that Parental Care (PC) and Parental Encouragement of Autonomy (PAE) are correlated with MFA. Additionally, several significant correlation patterns between PB dimensions and MFA dimensions were identified, such as the correlation of Parental Intrusiveness (PIR) and Parental Overprotection (PO) with Emotional Engagement (EE).

The current study found that parental care has a significant positive correlation with overall MFA. This finding is supported by research conducted by Gioia et al. (2023), which showed that pregnant women who received high parental care during childhood tend to have a positive maternal-fetal relationship during pregnancy. The perceived care and attention from both mother and father directly impact the mother-infant bond, with significant effects even when accounting for psychological stress, gestational age, and maternal age Gioia et al. (2023). Besides the perception of parental care acceptance by the pregnant mother, the freedom given by parents to allow these mothers to be more independent also correlates with MFA.

The discovery that PAE correlates with MFA is quite intriguing. This finding contrasts with Handelzalts et al. (2018), who found no significant correlation between these two variables. However, this study suggests that the perception of freedom to act granted by parents to the pregnant mother in the past can enhance the mother's confidence in caring for her unborn child. This confidence fosters positive feelings and emotions towards the child. According to Whipple et al. (2011), maternal autonomy support influences attachment patterns positively in children.

Furthermore, this study conducted regression tests to model the relationship between PB dimensions and MFA. Among the four variables, only PC was a predictor of MFA. In this context, the higher the level of parental care experienced by the pregnant mother during childhood, the stronger the emotional bond she develops with her fetus. This is particularly intriguing because, in previous research conducted in Brazil, the dimension of care did not have a significant impact, whereas the protective dimension did (da Rosa et al., 2021). This discrepancy may be attributed to cultural differences in Indonesia, where it appears that the attention and care provided during pregnancy have a strong impact on the mother's emotional attachment to the fetus. Consequently, the role of care is more significant for mothers in Indonesia compared to other dimensions Thus, parental caregiving and attentiveness can be predictors of attachment processes during pregnancy (Fukui et al., 2021).

The findings of this study can help caregivers and parents to apply better bonding and care practices for their children. Essentially, positive attention from parents or caregivers is a crucial protective factor for a child's cognitive, emotional, and social development, as well as resilience and self-confidence in adulthood (Sameshima et al., 2021; Tian et al., 2018). On the other hand, excessive parental control or over-regulation can hinder independence and increase the risk of insecure attachment and emotional and behavioral issues (Kidd et al., 2022; Sameshima et al., 2021).

This study also indicates that how a child is cared for influences how that child, when grown and becoming a mother, views her children. This aligns with the developmental perspective on the intergenerational transmission of parenting styles, suggesting that parenting styles can be passed from generation to generation. This intergenerational transmission is considered an influence of the parents' childhood experiences on their later parenting practices (de Cock et al., 2016; Taccini et al., 2021).

Several limitations were identified in this study. First, the number of participants needs to be increased. With only 120 participants, the study may not adequately represent the population of pregnant women across Indonesia. Furthermore, the presence of non-normally distributed data may reduce the strength of generalizing the research findings to different populations. Next, there are several missing data. Due to these limitations, future research is expected to investigate the relationship between PB and MFA with a larger and more evenly distributed sample. Additionally, upcoming research should provide a more complex and accurate picture of the relationship between these variables.

CONCLUSION

The current study aimed to look at the pattern of relationships and the influence of PB dimensions on MFA. Based on the results, this study revealed that of the several PB dimensions studied, PC and PAE had a positive correlation with MFA, with PC also being able to predict MFA significantly. Overall, independent variables were able to predict MFA by 10.2%. The implication is that improving the quality of CD and PAE can strengthen MFA in pregnant women. Future research is expected to be able to investigate the model of these variables with a larger sample size and variety, as well as with a more complex and precise model.

REFERENCES

Abasi, E., Tafazzoli, M., Esmaily, H., & Hasanabadi, H. (2013). The effect of maternal-fetal attachment education on maternal mental health. *Turkish Journal of Medical Sciences*, *43*(5), 815–820. https://doi.org/10.3906/sag-1204-97

Camarneiro, A. P. F., & de Miranda Justo, J. M. R. (2017). Prenatal attachment and sociodemographic and clinical factors in Portuguese couples. *Journal of Reproductive and Infant Psychology*, *35*(3), 212–222. https://doi.org/10.1080/02646838.2017.1297889

Cheung, S. F., Pesigan, I. J. A., & Vong, W. N. (2023). DIY bootstrapping: Getting the nonparametric bootstrap confidence interval in SPSS for any statistics or function of statistics (when this bootstrapping is appropriate). *Behavior Research Methods*, *55*(2), 474–490. https://doi.org/10.3758/s13428-022-01808-5

Coelho, F. M. D. C., Pinheiro, R. T., Silva, R. A., De Ávila Quevedo, L., De Mattos Souza, L. D., De Matos, M. B., Castelli, R. D., & Pinheiro, K. A. T. (2014). Parental bonding and suicidality in pregnant teenagers: A population-based study in southern Brazil. *Social Psychiatry and Psychiatric Epidemiology*, *49*(8), 1241–1248. https://doi.org/10.1007/s00127-014-0832-1

Cooke, J. E., Kochendorfer, L. B., Stuart-Parrigon, K. L., Koehn, A. J., & Kerns, K. A. (2019). Parent-child attachment and children's experience and regulation of emotion: A meta-analytic review. *Emotion*, *19*(6), 1103–1126. https://doi.org/10.1037/emo0000504

Cranley, M. S. (1981). Development of a tool for the measurement of maternal attachment during pregnancy. *Nursing Research*, *30*(5). https://journals.lww.com/nursingresearchonline/fulltext/1981/09000/development_of_a_tool_for_the_measurement_of.8.aspx

da Rosa, K. M., Scholl, C. C., Ferreira, L. A., Trettim, J. P., da Cunha, G. K., Rubin, B. B., Martins, R. da L., Motta, J. V. dos S., Fogaça, T. B., Ghisleni, G., Pinheiro, K. A. T., Pinheiro, R. T., Quevedo, L. de A., & de Matos, M. B. (2021). Maternal-fetal attachment and perceived parental bonds of pregnant women. *Early Human Development*, *154*. https://doi.org/10.1016/j.earlhumdev.2021.105310

de Cock, E. S. A., Henrichs, J., Klimstra, T. A., Janneke, A., Vreeswijk, C. M. J. M., Meeus, W. H. J., & van Bakel, H. J. A. (2017). Longitudinal associations between parental bonding, parenting stress, and executive functioning in toddlerhood. *Journal of Child and Family Studies*, *26*(6), 1723–1733. https://doi.org/10.1007/s10826-017-0679-7

de Cock, E. S. A., Henrichs, J., Vreeswijk, C. M. J. M., Maas, A. J. B. M., Rijk, C. H. A. M., & van Bakel, H. J. A. (2016). Continuous feelings of love? The parental bond from pregnancy to toddlerhood. *Journal of Family Psychology*, *30*(1), 125–134. https://doi.org/10.1037/fam0000138

Dubber, S., Reck, C., Müller, M., & Gawlik, S. (2015). Postpartum bonding: the role of perinatal depression, anxiety and maternal–fetal bonding during pregnancy. *Archives of Women's Mental Health*, *18*(2), 187–195. https://doi.org/10.1007/s00737-014-0445-4

Fauzy, A. (2019). *Metode Sampling* (2nd ed.). Universitas Terbuka. www.ut.ac.id.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). MCgraw-Hill.

Fukui, N., Motegi, T., Watanabe, Y., Hashijiri, K., Tsuboya, R., Ogawa, M., Sugai, T., Egawa, J., Enomoto, T., & Someya, T. (2021). Perceived parenting before adolescence and parity have direct and indirect effects via depression and anxiety on maternal–infant bonding in the perinatal period. *Psychiatry and Clinical Neurosciences*, *75*(10), 312–317. https://doi.org/10.1111/pcn.13289

Gioia, M. C., Cerasa, A., Muggeo, V. M. R., Tonin, P., Cajiao, J., Aloi, A., Martino, I., Tenuta, F., Costabile, A., & Craig, F. (2023a). The relationship between maternal-fetus attachment and perceived parental bonds in pregnant women: Considering a possible mediating role of psychological distress. *Frontiers in Psychology*, *13*, 1–11. https://doi.org/10.3389/fpsyg.2022.1095030

Gioia, M. C., Cerasa, A., Muggeo, V. M. R., Tonin, P., Cajiao, J., Aloi, A., Martino, I., Tenuta, F., Costabile, A., & Craig, F. (2023b). The relationship between maternal-fetus attachment and perceived parental bonds in pregnant women: Considering a possible mediating role of psychological distress. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.1095030

Goschin, S., Briggs, J., Blanco-Lutzen, S., Cohen, L. J., & Galynker, I. (2013). Parental affectionless control and suicidality. *Journal of Affective Disorders*, *151*(1), 1–6. https://doi.org/10.1016/j.jad.2013.05.096

Handelzalts, J. E., Preis, H., Rosenbaum, M., Gozlan, M., & Benyamini, Y. (2018). Pregnant women's recollections of early maternal bonding: associations with maternal–fetal attachment and birth choices. *Infant Mental Health Journal*, *39*(5), 511–521. https://doi.org/10.1002/imhj.21731

Hopkins, J., Miller, J. L., Butler, K., Gibson, L., Hedrick, L., & Boyle, D. A. (2018). The relation between social support, anxiety and distress symptoms and maternal fetal attachment. *Journal of Reproductive and Infant Psychology*, *36*(4), 381–392. https://doi.org/10.1080/02646838.2018.1466385

Infurna, M. R., Brunner, R., Holz, B., Parzer, P., Giannone, F., Reichl, C., Fischer, G., Resch, F., & Kaess, M. (2015). The specific role of childhood abuse, parental bonding, and family functioning in female adolescents with borderline personality disorder. *Journal of Personality Disorders*, *29*, 186. https://doi.org/https://doi.org/10.1521/pedi_2015_29_186

Kidd, K. N., Prasad, D., Cunningham, J. E. A., de Azevedo Cardoso, T., & Frey, B. N. (2022). The relationship between parental bonding and mood, anxiety and related disorders in adulthood: A systematic review and meta-analysis. *Journal of Affective Disorders*, *307*, 221–236. https://doi.org/10.1016/j.jad.2022.03.069

Lima, C. de A., Brito, M. F. S. F., de Pinho, L., Leão, G. M. M. S., Ruas, S. J. S., & Silveira, M. F. (2022). Abbreviated version of the maternal-fetal attachment scale: Evidence of validity and reliability. *Paideia*, *32*. https://doi.org/10.1590/1982-4327e3233

Luanpreda, P., & Verma, P. S. (2016). The influence of parental bonding on depression, shame, and anger among Thai middle school children, being mediated by peer victimization (victim of bullying): A path analytical study. *Scholar: Human Sciences*, *7*(2), 137–149.

Matthies, L. M., Müller, M., Doster, A., Sohn, C., Wallwiener, M., Reck, C., & Wallwiener, S. (2020). Maternal–fetal attachment protects against postpartum anxiety: The mediating role of postpartum bonding and partnership satisfaction.

Archives of Gynecology and Obstetrics, *301*(1), 107–117. https://doi.org/10.1007/s00404-019-05402-7

McNamara, J., Townsend, M. L., & Herbert, J. S. (2019). A systemic review of maternal wellbeing and its relationship with maternal fetal attachment and early postpartum bonding. *PLoS ONE*, *14*(7). https://doi.org/10.1371/journal.pone.0220032

Moniri, M., Rashidi, F., Mirghafourvand, M., Rezaei, M., & Ghanbari-Homaie, S. (2023). The relationship between pregnancy and birth experience with maternal-fetal attachment and mother-child bonding: a descriptive-analytical study. *BMC Psychology*, *11*(426), 1–9. https://doi.org/10.1186/s40359-023-01475-x

Monteleone, A. M., Ruzzi, V., Patriciello, G., Pellegrino, F., Cascino, G., Castellini, G., Steardo, L., Monteleone, P., & Maj, M. (2020). Parental bonding, childhood maltreatment and eating disorder psychopathology: An investigation of their interactions. *Eating and Weight Disorders*, *25*(3), 577–589. https://doi.org/10.1007/s40519-019-00649-0

Muller, M. E., & Mercer, R. T. (1993). Development of the prenatal attachment inventory. *Western Journal of Nursing Research*, *15*(2), 199–215. https://doi.org/10.1177/019394599301500205

Parker, G., Tupling, H., & Brown, L. B. (1979). A parental bonding instrument. *British Journal of Medical Psychology*, *52*(1), 1–10. https://doi.org/10.1111/j.2044-8341.1979.tb02487.x

Rajaretnam, T. (2016). *Statistics for Social Sciences*. Sage Publications Inc.

Rubertsson, C., Pallant, J. F., Sydsjö, G., Haines, H. M., & Hildingsson, I. (2015). Maternal depressive symptoms have a negative impact on prenatal attachment – findings from a Swedish community sample. *Journal of Reproductive and Infant Psychology*, *33*(2), 153–164. https://doi.org/10.1080/02646838.2014.992009

Sameshima, H., Shimura, A., Ono, K., Masuya, J., Ichiki, M., Nakajima, S., Odagiri, Y., Inoue, S., & Inoue, T. (2021). Corrigendum: Combined effects of parenting in childhood and resilience on work stress in nonclinical adult workers from the community. *Frontiers in Psychiatry*, *12*. https://doi.org/10.3389/fpsyt.2021.742812

Savage, J. (2014). The association between attachment, parental bonds and physically aggressive and violent behavior: A comprehensive review. *Aggression and Violent Behavior*, *19*(2), 164–178. https://doi.org/10.1016/j.avb.2014.02.004

Shin, H. J., Lee, D. H., Yu, K., & Ham, K. A. (2016). The relationship between parental bonding and peer victimization: Examining child stress and hopelessness as mediators. *Asia Pacific Education Review*, *17*(4), 637–650. https://doi.org/10.1007/s12564-016-9434-9

Sugiyono. (2022). *Metode penelitian kuantitatif, kualitatif, dan r&d*. Alfabeta.

Suryaningsih, E. K., Gau, M. L., & Wantonoro. (2020). Concept analysis of maternal-fetal attachment. *Belitung Nursing Journal*, *6*(5), 157–164. https://doi.org/10.33546/bnj.1194

Taccini, F., Rossi, A. A., & Mannarini, S. (2021). Intergenerational transmission of relational styles: Current considerations. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.672961

Tian, L., Liu, L., & Shan, N. (2018). Parent-child relationships and resilience among Chinese adolescents: The mediating role of self-esteem. *Frontiers in Psychology*, *9*(JUN). https://doi.org/10.3389/fpsyg.2018.01030

Tokman, E., & Yilmaz, Z. D. K. (2024). Trimesterden Trimestere: Gebelikte Değişen Cinsel İşlevleri Anlamak. *KTO Karatay Üniversitesi Sağlık Bilimleri Dergisi*, *4*(3), 174–183. https://doi.org/10.59244/ktokusbd.1278906

Wahyuntari, E., Listyaningrum, T. H., & Istiyati, S. (2019). Factors affecting maternal-fetal attachment. *Media Ilmu Kesehatan*, *8*(2), 141–146. https://doi.org/https://doi.org/10.30989/mik.v8i2.308

Walsh, J., Hepper, E. G., Bagge, S. R., Wadephul, F., & Jomeen, J. (2013). Maternal-fetal relationships and psychological health: Emerging research directions. *Journal of Reproductive and Infant Psychology*, *31*(5), 490–499. https://doi.org/10.1080/02646838.2013.834311

Whipple, N., Bernier, A., & Mageau, G. A. (2011). Broadening the study of infant security of attachment: Maternal autonomy-support in the context of infant exploration. *Social Development*, *20*(1), 17–32. https://doi.org/10.1111/j.1467-9507.2010.00574.x

Winston, R., & Chicot, R. (2016). The importance of early bonding on the long-term mental health and resilience of children. *London Journal of Primary Care*, *8*(1), 12–14. https://doi.org/10.1080/17571472.2015.1133012

Yap, M. B. H., Pilkington, P. D., Ryan, S. M., & Jorm, A. F. (2014). Parental factors associated with depression and anxiety in young people: A systematic review and meta-analysis. *Journal of Affective Disorders*, *156*, 8–23. https://doi.org/10.1016/j.jad.2013.11.007